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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/552,087	04/21/2000	Joseph R. Byrum	16517.132/38-21 (15786)B	4196

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EXAMINER
SWITZER, JULIET CAROLINE

ART UNIT	PAPER NUMBER
1634	8

DATE MAILED: 08/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/552,087	BYRUM ET AL.	
	Examiner	Art Unit	
	Juliet C. Switzer	1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 January 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3,5-7,9,10 and 12-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3,5-7,9,10 and 12-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *15* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. This action is written in response applicant's correspondence submitted 1/7/03, a copy of which was faxed to the office 5/12/03, paper number 14. Claims 4, 8, and 11 were cancelled, claims 3 and 7 were amended and claims 12-20 were added. Claims 3, 5-7, 9-10, and 12-20 are pending. Applicant's amendments and arguments have been thoroughly reviewed, but are not persuasive for the reasons that follow. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action. **THIS ACTION IS FINAL.**

2. In view of the papers filed 1/7/03, the inventorship in this nonprovisional application has been changed by the deletion of David. K. Kovalic.

The application will be forwarded to the Office of Initial Patent Examination (OIPE) for issuance of a corrected filing receipt, and correction of the file jacket and PTO PALM data to reflect the inventorship as corrected.

Priority

3. Instant SEQ ID NO: 1 was disclosed as SEQ ID NO: 141338 in application 09/521640 and as SEQ ID NO: 5 in application 09/421106, therefore the instant claims are granted priority to at least 10/15/99. The presence of the sequence in the provisional application was not determined as there was no intervening reference, and as there are thousands of sequences in the provisional application and there is no reasonable way to search the application.

4. Applicant's amendment to the specification correcting the provisional number has been entered. The application will be forwarded to the Office of Initial Patent Examination (OIPE) for issuance of a corrected filing receipt, and correction of the file jacket and PTO PALM data to reflect the priority data as corrected.

Information Disclosure Statement

5. A signed copy of the 1449 filed 1/7/03 (paper number 15) is enclosed herewith.

Duplicate Claims

6. Applicant is advised that should claims 5 and 6 be found allowable, claims 9 and 10 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The pending claims have been reviewed in light of the Utility Examination Guidelines and Guidelines for Examination of Patent Applications under 35 U.S.C. 112, first paragraph, "Written Description" Requirement, Federal Register, Vol. 66, No. 4, pages 1092-1111, Friday, January 5, 2001.

Claims 3, 5-7, 9-10, and 12-20 are rejected under 35 U.S.C. § 101 because the claimed invention lacks patentable utility due to its not being supported by a specific, substantial, and credible utility or, in the alternative, a well-established utility.

The claimed subject matter is not supported by a specific, substantial, and credible utility because the disclosed uses are generally applicable to broad classes of this subject matter. In

addition, further characterization of the claimed subject matter would be required to identify or reasonably confirm a "real world" use.

Rejected claims 3, 5-7, and 9-10 are drawn to plant host cells and transgenic plants that comprise construct having a promoter, wherein the promoter nucleic acid molecule comprises SEQ ID NO: 1 or a complement thereof linked to a structural nucleic acid molecule and a 3' non-translated sequence that functions in said cell to cause termination of transcription.

Claims 12-20 are drawn to substantially purified nucleic acid molecules that comprise instant SEQ ID NO: 1 or a nucleic acid sequence that is related to instant SEQ ID NO: 1 by a percent identity. Thus the claims encompass SEQ ID NO: 1 and many, many variants of the sequence.

A well-established utility is defined as a specific, substantial and credible utility which is well known, immediately apparent or implied by the specification's disclosure of the properties of a material, alone or taken with the knowledge of one skilled in the art. The instant host cells and transgenic plants do not have a well established utility because the art does not teach any utility for the instantly host cells and transgenic plants that is specific, substantial, and credible.

The specification discloses a number of general utilities for the nucleic acids disclosed herein. For example, the specification generally discloses that these nucleic acids are useful in genetic mapping studies (p. 35), physical mapping (p. 43), contig mapping (p. 46), comparative mapping (p. 49-56), the identification of polymorphisms (p. 49-56), monitoring expression (p. 56), locating regions of identity by descent between individuals (p. 58), isolating clones (p. 59), microarray based methods (p. 60), direct site mutagenesis (p. 60), transformation (p. 62-80), in cosuppression (p. 80), to reduce gene function (p. 82), and as antibodies (p. 83). None of these

asserted utilities are specific because the disclosed uses of the nucleic acids are generally applicable to any nucleic acid and therefore are not particular to the nucleic acid sequences being claimed.

The instant specification herein discusses transformation of cells and plants in general (p. 62-80), but does not discuss these methodologies with regard to SEQ ID NO: 1 in particular. The specification in table 1 sets for the that the protein encoded by instant SEQ ID NO: 1 has 50% identity with a putative POL3 protein from Arabidopsis, but the specification does not assert a utility for SEQ ID NO: 1 or the protein encoded by SEQ ID NO: 1 based on this homology. The fact that SEQ ID NO: 1 encodes a polypeptide that has homology to a "putative" protein suggests that the functionality of the Arabidopsis protein has not been confirmed. Thus, further experimentation would be required to reasonably confirm the identity of the protein both for Arabidopsis and for Glycine max proteins. Beyond that, further experimentation would still be required to establish a real world utility for such a protein. Further still, the claims encompass nucleic acids are related to SEQ ID NO: 1 by as little as 70% identity, but the specification provides no guidance as to which portions of the protein comprising SEQ ID NO: 1 would retain whatever functionality and utility that is possessed by the polypeptide encoded by SEQ ID NO: 1.

Claims 3, 5-6, 7, 9, and 10, are drawn to transformed plant cells and transgenic plants that have a construct which contains instant SEQ ID NO: 1 or its complement as "an exogenous promoter region" that functions in a plant cell to cause the production of an mRNA molecule. Thus, these claims suggest that SEQ ID NO: 1 is being included in the host cells and transgenic plants of claim 3, 5, and 6 for its functionality as a "promoter." This is not considered a

substantial utility because further experimentation would be required to reasonably confirm that SEQ ID NO: 1, or its complement, or fragments of either would function as a promoter as required by the claims. The specification does not provide any guidance as to the use of SEQ ID NO: 1, its complement or fragments thereof as promoters. In order to use the claimed invention, one would first have to confirm that either SEQ ID NO: 1 or its complement is in fact a promoter, then determine which fragments are also promoters. One would have to determine the type of promotion conferred by SEQ ID NO: 1, that is, one would have to determine if the promotion is tissue specific or constitutive, for example, or if it is an inducible promoter, and under what circumstances it is induced or repressed in order to make use of the claimed plants. Each of these determinations is highly unpredictable, from the determination as to whether or not SEQ ID NO: 1 or its complement is in fact a promoter to the determination of the type of promoter it may be to the determination of fragments of the promoter that confer promotion activity.

No specific function of the polypeptide encoded by SEQ ID NO: 1 has been provided, nor has it been demonstrated that SEQ ID NO: 1 has any utility as a marker for a specific phenotypic trait. There has been no specific assertion that in fact SEQ ID NO: 1 is a promoter, aside from the claims. The specification has not provided any guidance as to the use of SEQ ID NO: 1 as a promoter. Utilities that require or constitute carrying out further research to identify or reasonably confirm a "real world" context of use are not substantial utilities, and this is particularly the case with regard to correlation with phenotypic traits or genetic mapping of phenotypic traits. Further, the use of the instantly disclosed polynucleotides to produce the protein encoded by the nucleic acid is not a specific or substantial utility since there is no known

utility for the polypeptide. The use of instant SEQ ID NO: 1 as a promoter is not a specific or substantial utility since further experimentation would be required to confirm that in fact SEQ ID NO: 1 has the ability to cause the production of an mRNA molecule and the conditions under which such activity occurs. Thus, no utility has been described for the transformed plant cells and transgenic plants comprising SEQ ID NO: 1, either as a promoter or as a structural nucleic acid encoding a protein. The specification has provided not information as to what effect the expression of SEQ ID NO: 1 in a transgenic plant would have on the plant. After further research, a specific and substantial credible utility might be found for the claimed cells and plants. This further characterization, however, is part of the act of invention and until it has been undertaken, Applicant's invention is incomplete.

As noted by Brenner v. Manson, 383 U.S. 519, 535-536 (1996), "Congress intended that no patents be granted on a chemical compound whose sole "utility" consists of its potential role as an object of use-testing...a patent is not a hunting license. It is not a reward for the search, but compensation for its successful conclusion." Neither the specification as filed nor any art of record discloses or suggests any property or activity for the claimed cells and plants such that another non-asserted utility would be well established for the compounds.

For these reasons, the claimed host cells and transgenic plants are not supported by either a specific and substantial asserted utility or a well established utility. Note, because the claimed invention is not supported by a specific and substantial asserted utility for the reasons set forth above, credibility has not been assessed.

Claim Rejections - 35 USC § 112, 1st paragraph

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 3, 5-7, 9-10, and 12-20 are also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a specific and substantial asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

For all the above reasons, the disclosure is insufficient to teach one of skill in the art how to use the invention. A review of *In re Wands*, 8 USPQ2d 1400 (CAFC 1988) clearly points out the factors to be considered in determining whether a disclosure would require undue experimentation and include (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art and, (8) the breadth of the claims. All of these factors are considerations when determining the whether undue experimentation would be required to use the claimed invention. As is evidence in the discussions *supra*, each of these factors has been carefully considered in the instant grounds of rejection, and it is maintained that undue experimentation would be required by the skilled artisan to use the instant invention.

Claim Rejections - 35 USC § 112

9. Claims 12-19 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one

skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims are drawn to nucleic acids which comprise SEQ ID NO: 1 or a nucleic acid related to SEQ ID NO: 1 by a particular range of identity (i.e. 100% to 80% identity, as in claim 13). This genus is sufficiently broad so as to encompass a multitude of variants of SEQ ID NO: 1, as well as any full length coding sequence, mRNA, promoter, or genomic DNA of which SEQ ID NO: 1 is a portion, or of which the recited polynucleotides with identity to SEQ ID NO: 1 are portions. This large genus is represented in the specification by one species, a nucleic acid consisting of SEQ ID NO: 1. Thus, applicant has express possession of only one species in a genus which comprises hundreds of millions of different possibilities. Claim 17 further recites that the molecule comprises a region having a single nucleotide polymorphism. The specification does not describe a single example of such a polymorphism within SEQ ID NO: 1.

The claims do not recite any correlative structure/function relationship that defines the claimed invention.

With regard to the written description, all of these claims encompass nucleic acid sequences different from those disclosed in the specific SEQ ID No:s which, for claims 12-15 and 17-19 include modifications by permitted by the % identity language for which no written description is provided in the specification.

> It is noted that in Fiers v. Sugano (25 USPQ2d, 1601), the Fed. Cir. concluded that "...if inventor is unable to envision detailed chemical structure of DNA sequence coding for specific protein, as well as method of obtaining it, then conception is not achieved until reduction to practice has occurred, that is, until after gene has been isolated...conception of any chemical substance, requires definition of that substance other than by its functional utility."

In the instant application, only the nucleic acid sequence of the disclosed SEQ ID Nos are described. Also, in Vas-Cath Inc. v. Mahurkar (19 USPQ2d 1111, CAFC 1991), it was concluded that:

> "...applicant must also convey, with reasonable clarity to those skilled in art, that applicant, as of filing date sought, was in possession of invention, with invention being, for purposes of "written description" inquiry, whatever is presently claimed."

In the application at the time of filing, there is no record or description which would demonstrate conception of any proteins modified by addition, insertion, deletion, substitution or inversion with the disclosed SEQ ID No: 1 but possessing one or more nucleotide differences such that a different amino acid sequence is encoded which retains the function of the nucleic acid consisting of SEQ ID NO: 1.

Double Patenting

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 3, 5, 6, 7, 9, 10 and newly added claims 12-20 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 and 16 of copending Application No. 09/421106. Although the conflicting claims are

not identical, they are not patentably distinct from each other because the claims in the '106 application are drawn to nucleic acids which hybridize under specifically recited conditions to and/or comprise SEQ ID NO: 5 as described in the '106 application, with a claim which specifically recites a nucleic acid comprising SEQ ID NO: 5. SEQ ID NO: 5 in the '106 application is identical to SEQ ID NO: 1 in the instant application. The '106 application does not teach transgenic plants or cells. However, in the portion of the specification of the '106 application that supports the disclosure of SEQ ID NO: 5 therein, the specification teaches constructs which comprise SEQ ID NO: 5 as both a structural gene and a promoter (see page 9 of the specification therein). Thus, it would have prima facie obvious to one of ordinary skill in the art at the time the invention was made to have developed the instantly claimed transgenic plants and cells because this is disclosed as a preferred embodiment in the '106 application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Remarks

The rejections have been modified in light of the amended and newly added claims. A new written description rejection has been set forth to address newly added claims 12-20.

Applicant points out that the claimed nucleic acids are useful in determining the presence of polymorphisms, isolating specific promoter sequences, and to obtain nucleic acid homologues (p. 6-7 of response), but as noted in the utility rejection, none of these are specific to the claimed nucleic acids and constructs as these utilities are generally applicable to the entire class of chemicals known as nucleic acids.

Applicant argues that these utilities are directly analogous to the utilities of a microscope, i.e., the claimed nucleic acid molecules can be used to locate and measure nucleic acid molecules. However, a microscope has a real world utility in magnifying any object that is set onto the plate under the objective lens. SEQ ID NO: 1, on the other hand could only be used to examine itself, or nucleic acids very similar to itself, and such an interrogation (in a mapping procedure or to determine if there are polymorphic sites within SEQ ID NO: 1) does not provide an immediately useful benefit.

Applicant argues that the putative use of SEQ ID NO: 1 as a structural nucleic acid is a legally sufficient utility. However, this is not persuasive because the fact that SEQ ID NO: 1 may encode something is generic to all nucleic acids (i.e., non-specific), and the fact that SEQ ID NO: 1 may encode some protein in particular is not substantial absent some knowledge of the protein and its specific and substantial utility. Applicant's application is an invitation to carry out further experimentation to reasonably confirm a specific, substantial, and credible utility for nucleic acids and constructs comprising instant SEQ ID NO: 1.

Applicant further sets forth that the use of claimed nucleic acid molecules to detect the presence or absence of polymorphisms or in genetic mapping is no more legally insufficient than using a gas chromatograph to analyze a gas. However, again, like the microscope, this comparison is not equal because while instant SEQ ID NO: 1 can only be used to examine itself, the use of a gas chromatogram is general to any gas. Furthermore, it is noted that applicant is setting forth arguments concerning the detection of polymorphism as if polymorphism within SEQ ID NO: 1 are known. Even if the determination of the presence or absence of polymorphisms within SEQ ID NO: 1 in a plant population were a specific, substantial, and credible utility, this invention

could not be practiced based on the teachings of the instant specification without further research because no polymorphism within SEQ ID NO: 1 are disclosed.

Further, in addressing the golf club analogy set forth on page 7, Applicant is in fact stating that a golf club has a specific utility, that is to hit a golf ball, not any object. This is equivalent to a specific utility for a nucleic acid wherein a nucleic acid is useful for detecting a specific target sequence which is an indication of some specific phenotype, for example a disease state. Simply stating that a nucleic acid has utility because it does something that's well recognized in the art (for example hybridizing to itself) is not specific because this is not a real world utility. There is no reason one would want to detect instant SEQ ID NO: 1, except for to do further research to reasonably confirm a real world utility for SEQ ID NO: 1.

Applicant argues that the specification provides that the nucleic acid molecules of the present invention comprise promoter regions or partial promoter regions and associated elements. The specification provides this information generically for the over twenty thousand nucleic acid sequences disclosed herein, but does not provide any specific disclosure for instant SEQ ID NO: 1. The only specific disclosure provided in the specification with regard to SEQ ID NO: 1 is that it has homology to an Arabidopsis protein of unconfirmed function. Applicant further argues that SEQ ID NO: 1 has significant similarity to a GenBank accession number and that this region has been demonstrated to be necessary for promoter function in *G. max* cytosolic glutamate synthetase. However, this is not persuasive. First, no specific information is given as to what portion of SEQ ID NO: 1 exhibits homology with what portion of the GenBank sequence. Second, a search of GenEmbl database by the examiner was unable to identify any

AJ011009 as having 27.2% or more homology with SEQ ID NO: 1 as this accession number did not appear in the search results (attached at the end of the action).

Further, however, it is noted that homology to a promoter from one gene does not mean that SEQ ID NO: 1 is a promoter. The ability of a promoter to function is highly sequence specific. It has been demonstrated repeatedly in the prior art that even a single mutation in the critical region of a promoter element can destroy the ability of a construct to function in promotion. Thus, it is highly unpredictable how promoter elements will respond to even very minor sequences changes. In addition, the order that promoter elements occur in a construct has an effect on the functionality of the promoter. Even if some homology exists between SEQ ID NO: 1 and a promoter, absent further experimentation it would not be reasonable to conclude that SEQ ID NO: 1 could also function as a promoter with the same activity as the prior art promoter.

With regard to the Wands factors, each has been addressed in the utility rejection. The conclusion that undue experimentation would be required to use the claimed invention is based on a combination of a lack of guidance as to a specific and substantial utility for the claimed invention, the nature of the invention in that there are hundreds of possible specific and substantial utilities for any given nucleic acid, but none give in the specification, a lack of working examples as to how to use the invention, and the high degree of unpredictability with regard to the inability of one to look at the sequence and predict, for example, how it would function as a promoter or as a marker for a phenotype, or if there are any polymorphisms within it.

Applicant argues that the specification provides, for example evidence of sequence identity, start and stop positions within a sequence, promoter and partial promoter regions within

a sequence. However, as previously noted, this information is generically postulated for over twenty thousand sequence, and no specific guidance is given as to how to use instant SEQ ID NO: 1. These disclosures are an invitation to undertake an unknown amount of research to reasonably confirm that instant SEQ ID NO: 1 or any of the many variants of SEQ ID NO: 1 encompassed within the claims actually is, for example, a promoter or a maker of a phenotype, or contains SNPS, etc.

The provisional 102(e) and 102(f) rejections are withdrawn in view of applicant's remarks filed 1/7/03, page 14, paragraph 7 and 8.

Conclusion

12. No claims are allowed.

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juliet C. Einsmann whose telephone number is 703 306 5824. The examiner can normally be reached on Monday through Friday, from 9:00 AM until 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, W. Gary Jones can be reached on 703 308 1152. The fax phone numbers for the organization where this application or proceeding is assigned are 703 305 3592 and (703) 305-3014.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0196.

July 28, 2003

GARY BENZION, PH.D
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600

Results table from search of SEQ ID NO: 1 against the GenEmbl database.

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Run on:          June  4, 2003, 02:13:57 ; Search time 1216 Seconds
                                           (without alignments)
                                           9429.692 Million cell updates/sec

Title:           US-09-552-087B-1
Perfect score:   394
Sequence:        1 agctttccctctttgaacaa.........gcgtgactcgcgggatgcgt 394

Scoring table:   IDENTITY_NUC
                 Gapop 10.0 , Gapext 1.0

Searched:        2054640 seqs, 14551402878 residues

Total number of hits satisfying chosen parameters:      4109280

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
                 Maximum Match 100%
                 Listing first 45 summaries

Database :        GenEmbl:*
                 1:  gb_ba:*
                 2:  gb_htg:*
                 3:  gb_in:*
                 4:  gb_om:*
                 5:  gb_ov:*
                 6:  gb_pat:*
                 7:  gb_ph:*
                 8:  gb_pl:*
                 9:  gb_pr:*
                 10:  gb_ro:*
                 11:  gb_sts:*
                 12:  gb_sy:*
                 13:  gb_un:*
                 14:  gb_vi:*
                 15:  em_ba:*
                 16:  em_fun:*
                 17:  em_hum:*
                 18:  em_in:*
                 19:  em_mu:*
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                 22:  em_ov:*
                 23:  em_pat:*
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29: em_vi:*
30: em_htg_hum:*
31: em_htg_inv:*
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34: em_htg_pln:*
35: em_htg_rod:*
36: em_htg_mam:*
37: em_htg_vrt:*
38: em_sy:*
39: em_htgo_hum:*
40: em_htgo_mus:*
41: em_htgo_other:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.		Score	Query Match	Length	DB	ID	Description
c	1	170.2	43.2	86497	8	AP004525	AP004525 Lotus jap
c	2	159.4	40.5	4921	8	AF325187	AF325187 Phaseolus
c	3	155	39.3	116236	2	AC131249	AC131249 Medicago
	4	121.2	30.8	82451	8	AB073160	AB073160 Arabidops
c	5	119.6	30.4	158096	8	AC007887	AC007887 Genomic s
c	6	115.6	29.3	143303	8	OSJN00114	AL606994 Oryza sat
	7	114.6	29.1	90627	8	AP000411	AP000411 Arabidops
	8	114.2	29.0	123080	8	F10A2	AF147259 Arabidops
	9	114.2	29.0	197064	8	ATCHRIV18	AL161506 Arabidops
	10	114	28.9	89281	8	AC006304	AC006304 Arabidops
c	11	114	28.9	138668	8	AC092749	AC092749 Genomic s
c	12	114	28.9	146538	8	AC123594	AC123594 Oryza sat
c	13	113.4	28.5	99089	8	OSJN00242	AL731592 Oryza sat
	14	113.4	28.5	113459	2	AC092077	AC092077 Oryza sat
c	15	113.4	28.5	113459	2	AC092077	AC092077 Oryza sat
	16	113.4	28.5	113514	8	AP004767	AP004767 Oryza sat
c	17	113.4	28.5	120641	8	OSJN00113	AL606991 Oryza sat
	18	113.4	28.5	130433	8	OSJN00066	AL606634 Oryza sat
	19	113.4	28.5	137785	2	AP005065	AP005065 Oryza sat
c	20	113.4	28.5	139468	8	AC090441	AC090441 Oryza sat
	21	113.4	28.5	148246	8	AP003054	AP003054 Oryza sat
c	22	113.4	28.5	161250	8	AC079634	AC079634 Genomic S
c	23	113.4	28.5	176171	2	AP005067	AP005067 Oryza sat
	24	113.4	28.5	187122	2	AP005532	AP005532 Oryza sat
c	25	113.2	28.5	704	8	AF169186	AF169186 Triticum
c	26	113	28.4	139050	8	AC090054	AC090054 Oryza sat
c	27	113	28.4	143959	2	AC090055	AC090055 Oryza sat
	28	111.6	28.3	90772	8	AB062092	AB062092 Arabidops
	29	111.6	28.3	91299	8	AC083859	AC083859 Arabidops
	30	110.8	28.1	164669	2	AP005561	AP005561 Oryza sat
c	31	110	27.9	90859	8	AC005561	AC005561 Arabidops

c	32	110	27.9	109786	8	F5K24	AF128395 Arabidops
c	33	110	27.9	196517	8	ATCHRIV20	AL161508 Arabidops
c	34	109.8	27.9	155908	8	OSJN00247	AL731604 Oryza sat
	35	109.8	27.9	156279	2	CNS08CB2	AL844879 Oryza sat
c	36	109.2	27.7	105157	1	AP005576	AP005576 Oryza sat
	37	109.2	27.7	112855	1	AP003608	AP003608 Oryza sat
c	38	109.2	27.7	118763	1	AP004228	AP004228 Oryza sat
	39	109.2	27.7	128580	1	AP005466	AP005466 Oryza sat
c	40	109.2	27.7	129996	2	AC091664	AC091664 Oryza sat
c	41	109.2	27.7	130286	8	OSJN00011	AL606447 Oryza sat
c	42	109.2	27.7	136357	8	AP003562	AP003562 Oryza sat
c	43	109.2	27.7	139398	8	AC022352	AC022352 Genomic S
	44	109.2	27.7	141791	2	AP005582	AP005582 Oryza sat
c	45	109.2	27.7	142350	2	OSJN00264	AL731625 Oryza sat